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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,554	01/09/2006	Gunter Henning	00139-016001	7477

27774 7590 10/30/2007

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EXAMINER	
MALLARI, PATRICIA C	

ART UNIT	PAPER NUMBER
3735	

MAIL DATE	DELIVERY MODE
10/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,554	HENNING ET AL.	
	Examiner	Art Unit	
	Patricia C. Mallari	3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☒ Claim(s) *4-7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 January 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 4-7 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend upon another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Drawings

The drawings are objected to because some of the labels are not in English. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: None of the equations appear in the specification. Because none of the equations appear in the specification, the specification also therefore lacks sufficient antecedent basis for any of the steps of the claimed method for detecting and measuring the phase of response signals of a bio-system.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-3 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 recites, "Method to detect and measure the phase of response signals (y(t)) of a bio-system". However, the measurement of the phase of the response signals is nothing more than the execution of a mathematical algorithm, since the claimed invention fails to transform an article or physical object to a different state or thing, nor does the claimed invention produce a useful, concrete, and tangible result, since the phase of a signal is not a useful, concrete, and tangible result. See MPEP 2106 IV C 2.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is labeled as a "Method to detect and measure the phase of response signals". Step (e) of claim 1 results in the determination of the phase of the signal, wherein step (e) recites, "whereby the result of this integration represents the signal's phase". It is therefore unclear what the purpose of step (f) is or how the "break-off criterion" achieved in step (f) is related to the phase of the response signals.

Claim 1 further recites "the measured phase" on line 3 of step (b) and on line 1 of step (c). It is unclear whether this "measured phase" is the phase that is "to be determined in step (a) of claim 1 or if it is a different phase. If the "measured phase" is the same as that in step (a), it is unclear how the phase is then measured, since the purpose of the claimed invention as a whole appears to be the determination of the phase of response signals. If the "measured phase" is different from that in step (a), it is unclear what the "measured phase" refers to.

Allowable Subject Matter

Due to the multiple rejections under 35 U.S.C. 101 and 35 U.S.C. 112, 2nd paragraph and the existence of multiple dependent claims which have not been further treated, no statement of allowability is being issued at this time. However, the following is a description of the most relevant prior art and its relationship to the current invention:

US Patent No. 3,621,405 to Carlsen teaches a method of detecting and measuring the phase of response signals of a system including (a) multiplication of the response signal whose phase is to be determined with a first factor and (b) multiplication of the product of step (a) by a second factor represented by a trigonometric function (see entire document, especially col. 1, line 62-col. 2, line 44 of Carlsen). Carlsen lacks the system being a bio-system, the argument of the trigonometric function resulting from the product of the frequency of the investigated response signal times the time, added to the measured phase, whereby the frequency of the trigonometric analysis function corresponds to the frequency at which the phase is to be determined or that deviates from this frequency by a known amount, or any of steps (c) through (f), as claimed.

US Patent No. 6,589,189 to Meyerson et al. teaches a method wherein the phase of response signals of a bio-system are detected and measured (see entire document, especially col. 11, lines 1-17 of Meyerson). However, the determination of phase of Meyerson includes none of the claimed steps of the instant invention. While it would have been obvious to one of ordinary skill in the art to use the method of Carlsen as that of Meyerson, the resulting combination would still lack the argument of the trigonometric function resulting from the product of the frequency of the investigated

response signal times the time, added to the measured phase, whereby the frequency of the trigonometric analysis function corresponds to the frequency at which the phase is to be determined or that deviates from this frequency by a known amount, and any of steps (c) through (f), as claimed.

Therefore, the prior art lacks a method of detecting and measuring the phase of response signals of a bio-system, wherein the argument of the trigonometric function results from the product of the frequency of the investigated response signal times the time added to the measured phase, whereby the frequency of the trigonometric analysis function corresponds to the frequency at which the phase is to be determined or that deviates from this frequency by a known amount, and any of steps (c) through (f), as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia C. Mallari whose telephone number is (571) 272-4729. The examiner can normally be reached on Monday-Friday 10:00 am-6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patricia Mallari
Patent Examiner
Art Unit 3735